

WE CLAIM:

1. An offshore platform comprising:

(A) a deck for supporting hydrocarbon exploration,  
drilling or production equipment;

(B) a buoyant member;

(C) an open support structure positioned between  
the deck and buoyant member, comprising an upper end  
connected to the deck, and comprising a lower end  
connected to the buoyant member;

(D) a plurality of tendons connected to the buoyant  
member suitable for anchoring the platform;

wherein when the platform is positioned offshore,  
the deck is supported above the waterline, the upper end  
of the open structure is positioned above the water line,  
with the lower end positioned at least 100 feet below the  
waterline; and the heave resonance of the platform is at  
least 6 seconds.

1        2.    The platform of claim 1, wherein the heave resonance  
2        of the platform is in the range of about 6 to about 10  
3        seconds.

1        3.    The platform of claim 1, wherein the heave resonance  
2        of the platform is in the range of about 7 to about 9  
3        seconds.

1        4.    The platform of claim 1, wherein when the platform  
2        is positioned offshore, the lower end is positioned at  
3        least 150 feet below the waterline.

1        5.    The platform of claim 4, wherein the heave resonance  
2        of the platform is in the range of about 6 to about 10  
3        seconds.

1        6.    The platform of claim 4, wherein the heave resonance  
2        of the platform is in the range of about 7 to about 9  
3        seconds.

1 7. The platform of claim 1, wherein when the platform  
2 is positioned offshore, the lower end is positioned at  
3 least 200 feet below the waterline.

1 8. The platform of claim 7, wherein the heave resonance  
2 of the platform is in the range of about 6 to about 10  
3 seconds.

1 9. The platform of claim 7, wherein the heave resonance  
2 of the platform is in the range of about 7 to about 9  
3 seconds.

1 10. A method of exploring an offshore target zone for  
2 hydrocarbons, the method comprising:

3 (A) positioning a platform offshore near the target  
4 zone;

5 (B) conducting exploration activities from the  
6 platform,

7 wherein the platform comprises:

8 (i) a deck for supporting hydrocarbon  
9 exploration equipment;

10 (ii) a buoyant member;

11 (iii) an open support structure positioned  
12 between the deck and buoyant member,  
13 comprising an upper end connected to the deck,  
14 and comprising a lower end connected to the  
15 buoyant member;

16 (iv) a plurality of tendons connected to the  
17 buoyant member suitable for anchoring the  
18 platform;

19 wherein when the platform is positioned  
20 offshore, the deck is supported above the  
21 waterline, the upper end of the open structure is  
22 positioned above the water line, with the lower  
23 end positioned at least 100 feet below the  
24 waterline; and the heave resonance of the platform  
25 is at least 6 seconds.

1 11. The method of claim 10, wherein the heave resonance  
2 of the platform is in the range of about 6 to about 10  
3 seconds.

1 12. The method of claim 10, wherein the heave resonance  
2 of the platform is in the range of about 7 to about 9  
3 seconds.

1 13. The method of claim 10, wherein when the platform is  
2 positioned offshore, the lower end is positioned at least  
3 150 feet below the waterline.

1 14. The method of claim 13, wherein the heave resonance  
2 of the platform is in the range of about 6 to about 10  
3 seconds.

1 15. The method of claim 13, wherein the heave resonance  
2 of the platform is in the range of about 7 to about 9  
3 seconds.

1 16. The method of claim 10, wherein when the platform is  
2 positioned offshore, the lower end is positioned at least  
3 200 feet below the waterline.

1 17. The method of claim 16, wherein the heave resonance  
2 of the platform is in the range of about 6 to about 10  
3 seconds.

1 18. The method of claim 16, wherein the heave resonance  
2 of the platform is in the range of about 7 to about 9  
3 seconds.

1 19. A method of drilling for or production of  
2 hydrocarbons from an offshore target zone, the method  
3 comprising:

4 (A) positioning a platform offshore near the target  
5 zone;

6 (B) conducting drilling or production activities  
7 from the platform,

8 wherein the platform comprises:

9 (i) a deck for supporting hydrocarbon  
10 exploration equipment;

11 (ii) a buoyant member;

12 (iii) an open support structure positioned  
13 between the deck and buoyant member,  
14 comprising an upper end connected to the deck,  
15 and comprising a lower end connected to the  
16 buoyant member;

17 (iv) a plurality of tendons connected to the  
18 buoyant member suitable for anchoring the  
19 platform;

20 wherein when the platform is positioned  
21 offshore, the deck is supported above the  
22 waterline, the upper end of the open structure is  
23 positioned above the water line, with the lower  
24 end positioned at least 100 feet below the  
25 waterline; and the heave resonance of the platform  
26 is at least 6 seconds.

1 20. The method of claim 19, wherein the heave resonance  
2 of the platform is in the range of about 6 to about 10  
3 seconds.

1 21. The method of claim 19, wherein the heave resonance  
2 of the platform is in the range of about 7 to about 9  
3 seconds.

1 22. The method of claim 19, wherein when the platform is  
2 positioned offshore, the lower end is positioned at least  
3 150 feet below the waterline.

1 23. The method of claim 22, wherein the heave resonance  
2 of the platform is in the range of about 6 to about 10  
3 seconds.

1 24. The method of claim 22, wherein the heave resonance  
2 of the platform is in the range of about 7 to about 9  
3 seconds.



1 25. The method of claim 19, wherein when the platform is  
2 positioned offshore, the lower end is positioned at least  
3 200 feet below the waterline.

1 26. The method of claim 25, wherein the heave resonance  
2 of the platform is in the range of about 6 to about 10  
3 seconds.

1 27. The method of claim 25, wherein the heave resonance  
2 of the platform is in the range of about 7 to about 9  
3 seconds.